

JSA Number: Yerington -021

Task: Surface Water Sampling – Groundwater Tracer Study

JSA NUMBER: Yerington-021 (Rev.0) DATE: 05/07/2007	Company Performing the Job: Brown and Caldwell	PROJECT MANAGER: Chuck Zimmerman SITE SAFETY OFFICER: Penny Bassett
JOB TITLE OR TASK: Surface Water Sampling – Groundwater Tracer Study	TITLE OF PERSON(S) WHO PERFORMS JOB: Site Field Manager Site Technicians or Engineers	ANALYSIS BY: Penny Bassett REVIEWED BY: Matt McPhee, Brian Bass
WORK LOCATION: Wabuska Drain, Walker River, West Campbell Ditch, Evaporation Pond, and Yerington Mine Pit,	PHYSICAL DESCRIPTION OF WORK AREA: Work areas will have standing or running water of various depths and swiftness. Embankments to access the sample location may be steep with muddy, rocky or other unfirm footing. Vegetation such as bushes and fallen trees may create tripping or other restricted access.	REASON FOR ACTIVITY: One time sample collection for groundwater tracer study as required by 2 nd Step Hydrogeologic Framework Assessment Work plan.
REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) AND/OR PERTINENT JOB SAFETY FORMS: <i>Minimum PPE:</i> Hard hat, safety glasses, steel-toed boots, high-visibility shirt or vest, long-sleeved shirt tucked in at the waist. <i>Additional PPE (as needed):</i> Leather gloves, nitrile gloves. <i>Job Safety Form:</i> BP Authorization to Work NOTE: WORKING WITH A PARTNER IS REQUIRED WHEN WORKING AROUND WATER		
SEQUENCE OF BASIC JOB STEPS	POTENTIAL HAZARDS	PREVENTIVE OR CORRECTIVE ACTION
1. Drive to sample locations	1. Driving injury resulting from rough terrain or road hazards.	1. May require driving on dirt roads. Pay attention to road conditions such as road erosion, unprotected embankments, soft road surfaces. 2. Weather conditions may affect activities by restricting access to unmaintained roadways. Scout the area on foot if uncertain about road conditions. 3. Do not talk on the cell phone while driving. 4. Be aware of your surroundings when exiting the vehicle. Be cognizant of rattles and other wild animal warning sounds.
2. Walk from vehicle to sample location: <ul style="list-style-type: none"> Exit vehicle Gather sampling tools (containers, coolers, etc.) Select access walkway prior to carrying sampling equipment 	1. Uneven/unstable walking surface, steep embankments to access water sample locations. 2. Carrying awkward or heavy loads can cause back injury or make tripping hazards more significant. 3. Insect bites, snake bites, other animal hazards.	1. Check walking surface before carrying any loads. Locate safest access point, be aware of any tripping hazards or steep embankments. Wear work boots with ankle protection and gripping soles. Select an access point where the embankment is shallowest. 2. Carry smaller/lighter loads by making more trips. Ask for assistance on heavy loads. Carry loads in a way that allows you to watch your pathway. 3. Wear long sleeve clothing with sleeves buttoned/rolled down at cuff. Wear insect repellant. Check clothing often for the presence of spiders or ticks. Avoid walking in dense vegetation if it can be avoided. Make noises or shake the brush to scare off any wildlife.

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3. Collect water samples: <ul style="list-style-type: none">Stand on shore or in shallow water downstream from intended sample location (to avoid stirring up sediment)Dip sample container or other sample collection device into water bodyPour water sample into sample containerAdd acid preservative (if required)Label and fill out required paperworkPlace samples in sample cooler for transport	<ol style="list-style-type: none">Potential <i>drowning hazard</i> working around water.Chemical burn when adding acid preservatives to samples.Ergonomic issues due to bending over, crouching or kneeling for long periods of time.Back injury from carrying heavy or awkward loads	<ol style="list-style-type: none">Always work with a partner when working around water. Wear a floatation vest if the water is deeper than 2 feet or swift moving. Select a working area where the footing is stable. Do not stand in or attempt to cross swift moving water.Wear nitrile gloves when handling acid preservatives or use sample bottles that already contain preservative.When possible, avoid bending over for long time periods and use a small stool for sitting or knee pad for kneeling. Stand up and stretch frequentlyAsk for assistance with heavy loads or make more trips with smaller loads.
4. Package samples for shipment: <ul style="list-style-type: none">Package individual samples in shipping coolerProtect containers from breakageAdd ice to cool samples for preservation (if required)Fill out chain of custody formTape shipping cooler and apply exterior labelsDeliver cooler to shipping company	<ol style="list-style-type: none">Breakage of glass containers (if used) can cause cuts to hands or glass splinters in eye.Back injury when lifting heavy shipping coolers.	<ol style="list-style-type: none">Handle glass containers carefully, wrap in protective bubble wrap at time of collection. Wear safety glasses when handling glass containers.Use a dolly or get assistance when carrying loaded coolers, which can weigh up to 40+ pounds.
5. General activities	<ol style="list-style-type: none">Uneven working surface can create a tripping hazardWeather conditions can create heat or cold stress situations.	<ol style="list-style-type: none">Be aware of the ground surface to avoid tripping hazards.Dress appropriately for the weather conditions. Monitor your self for the signs of heat stress/exhaustion or frost bite.